

AMENDMENTS TO THE CLAIMS

This listing of the claims will replace all prior versions, and listings, of claims in the application:

Listing of the Claims:

1. (Currently amended) Apparatus for producing an output solution having a predetermined level of available free chlorine comprising: an electrolytic cell, means for passing a saline solution having a substantially constant chloride ion concentration through the electrolytic cell to produce a substantially constant chloride ion throughput, means for applying a substantially constant current across the cell, and means for dispensing the output solution having the predetermined level of available free chlorine from the electrolytic cell.
2. (Original) Apparatus according to claim 1, wherein the electrolytic cell comprises anode and cathode chambers separated by a separator, each chamber having a feed line through which the saline solution is fed into the chamber and anolyte and catholyte lines respectively for receiving the electrochemically treated solution.
3. (Original) Apparatus according to claim 2, wherein the output solution comprises the anolyte.
4. (Original) Apparatus according to claim 3, further comprising a catholyte recirculation line for feeding at least a portion of catholyte from the cathode chamber to the input line of the anode chamber.
5. (Original) Apparatus according to claim 1, further comprising a concentrated salt solution make up tank, a process water tank and mixing means for mixing a concentrated salt solution from the make up tank with process water from the water tank to produce the saline solution.
6. (Original) Apparatus according to claim 5, wherein the mixing means comprises a dispenser for dispersing pulses of concentrated salt solution into a continuous flow of process water.

7. (Original) Apparatus according to claim 6, wherein the dispenser comprises a tube having a closed end, an open, feed end and a plurality of apertures along its length.
8. (Original) Apparatus according to claim 5, wherein the electrolytic cell is positioned at a level higher than the concentrated salt solution make up tank and the process water tank thereby to reduce back pressure on the cell.
9. (Original) Apparatus according to claim 1, further comprising an intermediate holding tank for receiving output solution from the cell.
10. (Original) Apparatus according to claim 9, further comprising measuring means to measure biocidal efficacy of the output solution in the intermediate holding tank.
11. (Original) Apparatus according to claim 10, wherein the measuring means comprises a pH meter and a redox probe.
12. (Original) Apparatus according to claim 9, further comprising a storage tank for receiving output solution from the intermediate holding tank.
13. (Original) Apparatus according to claim 12 wherein the intermediate holding tank comprises a weir tank located above the storage tank.
14. (Original) Apparatus according to claim 13, wherein the storage tank is positioned at a height to allow output solution to be dispensed therefrom by gravity feed.
15. (Original) Apparatus according to claim 9, further comprising a rinse water storage tank for receiving output solution from the intermediate holding tank and water.
16. (Original) Apparatus according to claims 15, wherein the rinse water storage tank is positioned at a height to allow rinse water comprising output solution diluted with water to be dispensed therefrom by gravity feed.

17. (Original) Apparatus according to claim 9, further comprising corrosion inhibitor storage and dispensing means for dosing corrosion inhibitor into the intermediate holding tank.
18. (Original) Apparatus according to claim 1, further comprising a user interface for displaying information on the performance of the apparatus and the materials inputted to and outputted from the apparatus.
19. (Original) Apparatus according to claim 18, wherein the user interface includes a display with keypad controls.
20. (Original) Apparatus according to claim 18, further comprising control means to permit adjustment of operating parameters in response to information displayed.
21. (Original) Apparatus according to claim 1, further comprising a service interface for displaying diagnostic information on the performance of the apparatus.
22. (Original) Apparatus according to claim 21, wherein the service interface includes means to permit adjustment of operating parameters.
23. (Original) Apparatus according to claim 21, wherein the service interface can be accessed remotely.
24. (Original) Apparatus according to claim 1, further including one or more failsafe mechanisms to prevent output solution from being dispensed when operating parameters cannot be adjusted to ensure that the solution has the required biocidal properties or when the output solution is older than a predetermined age.
- 25-30. (Cancelled)

31. (Currently Amended) Apparatus for electrochemically treating a supply of aqueous salt solution, the apparatus including an electrolytic cell having an anode chamber and a cathode chamber separated by a separator, the anode and cathode chambers respectively being provided with an anode or a cathode, and each chamber having input and output lines for the solution to be treated; wherein: i) the input line to the cathode chamber is provided with a flow regulator for controlling the flow of solution; ii) the anode and cathode are connected to a source of substantially constant direct current; and iii) an output line from the cathode chamber is connected to an input line of the anode chamber by way of a recirculation line.
32. (Original) An apparatus as claimed in claim 31, wherein a pH probe is provided on the output line from the anode chamber.
33. (Original) An apparatus as claimed in claim 31, wherein a pump is provided on the recirculation line.
34. (Previously presented) An apparatus as claimed in claim 33, wherein the pH probe and the pump together form a feedback control mechanism for adjusting a flow rate of solution through the recirculation line so as to maintain a substantially constant pH of the solution output from the anode chamber.
35. (Original) An apparatus as claimed in claim 31, wherein a degassing unit is provided on the recirculation line.
- 36-42. (Cancelled)
43. (New) An apparatus for producing an output solution having a predetermined level of available free chlorine comprising:
- an electrolytic cell having an inlet for receiving an input solution and an outlet for expelling the output solution,
 - a concentrated salt solution tank for holding a concentrated salt solution having chloride ions,

a water tank for holding water, connected to a water pump,

means for diluting the concentrated salt solution with the water to form the input solution prior to the electrolytic cell inlet,

a conductivity sensor located prior to the inlet of the electrolytic cell for measuring the conductivity of the input solution, and

means for adjusting the flow of chloride ions into the input solution to maintain a constant chloride ion throughput through the electrolytic cell.